EXHIBIT 3

Declaration of Terry L. Murray and D. Scott Cratty

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Review of the Commission's Rules Regarding	)	
the Pricing of Unbundled Network Elements	)	WC Docket No. 03-173
and the Resale of Service by Incumbent Local	)	
Exchange Carriers	)	

Declaration of Terry L. Murray and D. Scott Cratty

SUBJECT INDEX

I. QUALIFICATIONS

A. Terry L. Murray

1. My name is Terry L. Murray. I am President of the consulting firm Murray & Cratty, LLC. My business address is 8627 Thors Bay Road, El Cerrito, CA 94530.
2. I am an economist specializing in analysis of regulated industries. I received an M.A. and an M.Phil. in Economics from Yale University and an A.B. in Economics from Oberlin College. At Yale, I was admitted to doctoral candidacy and completed all requirements for the Ph.D. except the dissertation. My fields of concentration at Yale were industrial organization (including an emphasis on regulatory and antitrust economics) and energy and environmental economics.
3. My professional background includes employment and consulting experience in the fields of telecommunications, energy and insurance regulation. As a consultant, I have testified or served as an expert on telecommunications issues in proceedings before state regulatory commissions in Alaska, California, Connecticut, Delaware, the District of Columbia, Florida, Georgia, Hawaii, Illinois, Indiana, Kansas, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Nevada, New Jersey, New York, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, Washington and Wisconsin, and before the Federal Communications Commission ("FCC" or "Commission").
4. Before I became a consultant in 1990, I was employed in a variety of positions (including Director of the Division of Ratepayer Advocates) at the California Public Utilities Commission ("CPUC") for approximately six years and had significant responsibility for telecommunications matters.
5. I have extensive experience (both as a regulator and as an independent consultant) in reviewing and assessing the economic consequence of various approaches to estimating the cost to provide regulated services such as retail local exchange service, unbundled network elements ("UNEs"), interconnection and collocation. Over the past decade, I have reviewed a very wide range of cost studies – including studies developed by most of the large incumbents (in some cases multiple generation of studies by the same incumbent) and by other parties. Moreover, I have participated in intensive evaluation of those studies before dozens of state commissions in both generic costing dockets and in arbitration proceedings (as well as before the FCC's own Wireline Competition Bureau when it acted in place of the Virginia State Corporation Commission).
6. I have also taught economics and regulatory policy at both the undergraduate and graduate levels. My curriculum vitae, which is appended as Exhibit TLM/DSC-1 to this declaration, provides more detail concerning my qualifications and experience.

B. D. Scott Cratty

7. My name is D. Scott Cratty. I am Vice President of the consulting firm Murray & Cratty, LLC. My business address is 725 Vichy Hills Drive, Ukiah, California 95482.

8. I am a consultant specializing in telecommunications matters. My experience includes over 20 years within the telecommunications industry covering a wide range of assignments (including technical, marketing and regulatory assignments), including more than eight years of consulting experience focusing on telecommunications regulation. I have participated in regulatory proceedings in more than 20 states covering issues including, but not limited to, costing and pricing for retail services, UNEs and collocation; price-cap regulation; mergers; Section 271 reviews and impairment analyses.

9. The costing of UNEs and interconnection services has been a particular focus of my consulting practice. In both generic cost proceedings and arbitration proceedings, I have reviewed Total Element Long Run Incremental Cost ("TELRIC") recurring and non-recurring cost studies for virtually every large incumbent local exchange carrier ("ILEC") across the country. In most of these proceedings, I have been deeply involved in the discovery process, including the (often thwarted) attempt to obtain the data necessary for competitive local exchange carriers ("CLECs") to populate their own cost models that are capable of using detailed information about customer locations and other "real-world" attributes of the ILECs' networks. I also have had "hands on" experience using both ILEC and CLEC cost models to determine the sources of the often large discrepancies in the results that these models appear to produce.

10. My curriculum vitae, which is attached to this declaration as Exhibit TLM/DSC-2, provides further information concerning my education and qualifications.

II. FOR GOOD CAUSE, A WIDE RANGE OF COMPETITORS – INCLUDING COMPETITORS THAT ARE DEPLOYING THEIR OWN FACILITIES – FAVOR MAINTAINING THE EXISTING TELRIC GUIDELINES.

11. We are filing this declaration at the request of a number of CLECs including: Broadview Networks, Eschelon Telecom, KMC Telecom, Mpower Communications, NuVox, Inc., Sage Telecom, Inc., Talk America, XO Communications, and Xspedius Management Co. These companies have asked us to focus particularly on supplying the Commission with guidance and information based on practical experience in working through the application of the FCC's existing TELRIC guidelines in the states. After examining the potential changes to TELRIC that the Commission is suggesting and/or exploring through the lens of our practical experience, we conclude that those changes would generally not help to achieve the Commission's stated goals. Moreover,

we explain why, given the other significant changes to UNE regulation now in motion and the realities of the regulatory process, any substantial change in TELRIC requirements at this time will likely increase market uncertainty and harm the development of the types of competition (and benefits thereof) that the Telecommunications Act of 1996 ("Act") sought to establish.

12. In general, the CLEC group sponsoring this declaration consists of companies that are substantially smaller than the ILECs, although that may not be the case some day. The members of this group are all actively competing with the ILECs and striving to win customers by offering superior value to consumers. They are delivering innovative—and heretofore unavailable—services or service combinations and/or are providing opportunities for American businesses and households to get more for their communications dollar. In short, they are actively creating the benefits to the American economy that Congress envisioned when it enacted the Act.

13. To do so, these CLECs are collectively attempting to implement a wide array of entry strategies, again as envisioned by the Act. As examples, the carriers in the CLEC group sponsoring this declaration include companies with a national approach to market entry[1] and others focusing on various specific regions; some serve predominantly business customers and others focus on mass-market customers; some have focused substantially on building their own facilities and others rely primarily on UNEs.

14. In a very real sense, these companies have been catalysts of change in the local exchange telecommunications market that is beginning to become competitive. They have been "in the field" competing with the heretofore monopoly ILECs and have been building facilities, interconnecting, working with components of the ILECs' networks throughout the period of time in which the states have been working to implement and refine the Commission's existing TELRIC methodology. Not only do the new services that these CLECs offer directly create the consumer benefits intended by the Act, but they also trigger explicit, responsive price reductions from the ILECs.[2]

15. We therefore find it particularly compelling (as we believe the Commission should) that such a wide range of CLECs—again including both companies that are very actively investing in their own facilities and companies relying primarily on UNEs—unanimously support the notion that the FCC's existing regulations for

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[1] Attempting to implement a national entry strategy obviously does not magically make the underlying market conditions in each central office, or even the conditions among different types of customers or customers served on different types of facilities, comparable.

[2] *See, e.g.,* SBC 2003 Analyst Conference, Marketplace Execution presentation by Ray Wilkins, which is available at http://www.shareholder.com/sbc/downloads/AnalystPres_nov03.pdf.

pricing UNEs, as embodied in the current TELRIC guidelines, are not broken and do not need to be fixed.

16. This broad industry support for the TELRIC rules does not surprise us. Economists widely agree that a long-run, forward-looking economic cost methodology is the best framework for estimating costs and thus setting prices comparable to those that would result in an effectively competitive market. And, economists, virtually without exception, concur that efficient economic choices must be based on forward-looking economic costs, not embedded historical costs, as the *Notice* itself observes.[3]

17. TELRIC-based UNE prices replicate the long-run, forward-looking economic cost of the ILECs. TELRIC benefits competitors building their own facilities by sending an appropriate economic signal regarding the relevant ILEC costs, which prevents inefficient, unsustainable investment. TELRIC-based UNE prices allow new entrants to access end-users at costs that reflect the same scope and scale economies available to the incumbents by virtue of their legacy of monopoly providers. Thus, TELRIC-based UNE prices create an opportunity for competitors with diverse entry strategies to attempt to compete against the incumbents (given that other regulations prevent the incumbents from exploiting other potential entry barriers). The relatively few competitors that have survived the shakeout in the telecommunications industry of the last few years should indeed be keenly aware of the value of TELRIC-based UNE prices.

18. In many areas, however, establishing TELRIC-based UNE prices has been a long, hard fight. Indeed, it may even still be a work in progress. As we will explain below, although getting TELRIC-based prices implemented has not been easy, that is not because TELRIC-based costs are uniquely difficult to develop. Instead, the incumbents have made these UNE pricing proceedings needlessly complex by using every available means to block or stall the implementation of TELRIC – including, *e.g.*, filing massive, misleading "TELRIC" studies that bear little relationship to the Commission's TELRIC requirements, appealing state commission decisions and filing court appeals.

19. Much of the rumored complexity of the TELRIC approach stems from the fact that ILECs have been and are today filing studies based on (often misinterpreted) masses of data about their embedded networks (one of the approaches that the Commission seems to be considering in its *Notice*) *and* vigorously asserting that those studies are "TELRIC" studies. Simultaneously, the ILECs fight fierce battles to block discovery about their current or forward-looking costs and plans

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[3] *Accord*, WC Docket No. 03-173, *Notice of Proposed Rulemaking*, In the Matter of Review of the Commission's Rules Regarding the Pricing of Unbundled Network Elements and the Resale of Service by Incumbent Local Exchange Carriers, rel. September 15, 2003 (hereinafter "*Notice*") ¶ 32; *see especially* n. 69.

or to withhold other basic data from any party attempting to develop an alternative study.

20. As a result, the states have faced a challenge in developing TELRIC-based prices because information regarding forward-looking ILEC costs has been difficult to obtain. Simultaneously, the ILECs have presented massive, cryptically packaged, compilations of embedded data along with dozens of arguments to explain why embedded data are a better indication of forward-looking costs than a forward-looking analysis. Notably, the ILEC presentation in state UNE cases tends to be so massive (and the related discovery battles so intensive) that smaller CLECs are effectively shut out from those proceedings.

21. Given the enormity and sophistication of the ILEC resistance to TELRIC-based prices, those prices have been slow in coming. Indeed, in many areas, ILECs fought off anything approximating TELRIC-based priced until regulatory pressure *combined with* the reward of interLATA authority was brought to bear. Thus, in some areas, competitors such as the smaller CLECs sponsoring this declaration may have had to wait until very recently for reasonably TELRIC-based prices against which to test their entry strategies.

22. A second point of unanimity among the CLECs sponsoring this declaration is that changing the basis for pricing UNEs at this stage, with the inevitable range of new interpretation of the nature of the change and ensuing relitigation in the courts and in each state, will necessarily destabilize and harm competition. In other words, any benefits from changes to the existing TELRIC methodology would likely be much more than offset by the resulting destabilization of the competitive environment.

III. LONG RUN INCREMENTAL COST, AS A METHOD FOR COSTING AND PRICING UNES, IS NOT BROKEN

A. The Existing TELRIC Requirements Send Appropriate Economic Signals. ILEC Complaints That TELRIC Studies Are Not Sufficiently "Real-World" Merely Mask ILEC Efforts To Be Compensated For Both Forward-Looking Economic Costs And Embedded Costs.

23. In refusing to reconsider that UNE costs should be based on a forward-looking study, the Commission correctly affirms that forward-looking economic costs are the only basis for setting prices that promote important economic efficiency goals. When prices properly reflect forward-looking economic costs, consumers buy the "right" quantities of goods and services because prices signal the cost of the resources (labor, capital, materials and land) used to produce those goods and services. Producers choose the least-cost methods of production and combination of inputs because they cannot recover inefficient costs in the marketplace. They also have an incentive to seek out more efficient methods of production to gain a

temporary cost advantage over rivals and to keep pace with their rivals' cost-cutting measures.

24. Indeed, even the ILECs, who are the leading advocates for eliminating or transforming TELRIC, manifest their concern about the use of long-run economic costs only when the goal is to develop prices for competitors. In contrast, when the issue concerns the price floors for their own competitive services, the ILECs have long advocated a long-run economic costing methodology that is similar to (but generally produces lower prices than) TELRIC.[4] Thus, from the start, the ILECs' impetus for changing TELRIC has been hypocritical and self-serving, at best.

25. The near-unanimity in support of long-run incremental costing methodology suggests that the Commission has been on the correct track with its TELRIC methodology. Nonetheless, implementation of the TELRIC methodology over the past several years has identified a handful of conceptual issues that may merit closer examination to ensure the proper application of forward-looking costing principles.

26. The Commission identified one such issue as "[p]erhaps the most controversial aspect of the TELRIC rules" (*Notice* ¶ 49), namely, the presumption that a carrier could be both ubiquitous and "instantaneously replace" its entire network. (*Notice* ¶¶ 50-51.) Much of the controversy surrounding this issue has been misplaced, however. As the Commission is aware, its existing TELRIC rules and the economic theory that underlies them do not require or suppose that the ILECs go forth and instantly replace their networks. Instead, the Commission's existing regulations properly recognize that, in competitive markets, the value of older assets will change "instantaneously" (in effect) when new technology emerges, even if the carrier continues to serve customers using the revalued embedded plant.

27. As we discuss in detail below, the ILEC complaints concerning the supposed instantaneous and ubiquitous replacement assumption (and many other issues raised by the ILECs as complaints concerning the Commission's existing TELRIC rules) are truly "red herrings." Instead of raising any legitimate concern about long-run economic costs, the ILECs' typically complain about "instantaneous and ubiquitous replacement" as unrealistic in the "real world" only when they seek compensation for both their embedded and their forward-looking

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[4] For example, both Pacific Bell (now part of SBC) and GTE California (now part of Verizon) advocated for and won Long-Run Incremental Cost-based price floors from the California Public Utilities Commission long before the Act. Likewise, C&P Telephone (now part of Verizon) long used a TELRIC-like approach to support its competitive contracts. (Robert W. McCausland, "Competitive Pricing" panel presentation to CompTel in Orlando, Florida, October 10, 2003, pp. 19-23.)

networks by advocating a "mix-and-match" approach in state dockets. For example, ILECs often propose studies that begin with the relatively high per-unit cost they might incur today in some locations to extend an embedded facility or route a small distance, but then apply that unit cost for piecework to value the *entire* network.

28. Because the ILECs do not, in fact, have to rebuild their entire networks one small cable at a time, the existing TELRIC guidelines provide a means to ensure that consistent assumptions are applied throughout cost studies and to reflect the "real world" fact that the ILECs have the unique advantage of beginning their lives in a "competitive" market already in possession of ubiquitous facilities that were funded by monopoly ratepayers.

29. Moreover, at the same time as the ILECs are advocating that UNE prices should be benchmarked against historic actual costs, ILECs such as SBC and Verizon are simultaneously boasting that, in the real world, they expect to achieve billion-dollar productivity gains in the near future. SBC, for example, claims to be "reinventing our company to compete in the future" via "a fundamental transformation of SBC operations,"[5] while Verizon asserts that it has "swiftly and aggressively reduced ongoing expenses" by "capturing the productivity gains created by process improvements"[6]

30. Indeed, in developing its TELRIC guidelines, the Commission chose conservatively to fix the location of ILEC wire centers, finding that "[t]his benchmark of forward-looking cost and existing network design most closely represents the incremental costs that incumbents actually expect to incur in making network elements available to new entrants."[7] In this way, the Commission deliberately chose to overstate UNE costs and prices relative to the forward-looking economic costs that would form the basis for pricing in a competitive market. The Commission likewise noted that "this approach encourages facilities-based competition to the extent that new entrants, by

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[5] SBC 2003 Analyst Conference, Service and Operations Initiatives presentation, John Atterbury.

[6] Verizon Press Release, "Verizon Announces Estimated Charges and Ongoing Savings from Voluntary Separation Plan," (December 9, 2003), a copy of which can be found at: http://newscenter.verizon.com/.

[7] *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, CC Docket No. 96-98, First Report and Order, 11 FCC Rcd 15499 (1996) (*"First Report and Order"*), *aff'd in part and vacated in part sub nom. Comp. Tel. Assoc. v. FCC*, 117 F.3d 1068 (8th Cir. 1997) and *Iowa Utils. Bd. v. FCC*, 120 F.3d 753 (8th Cir. 1997), *aff'd in part and remanded, AT&T v. Iowa Utils. Bd.*, 525 U.S. 366 (1999); *on remand Iowa Utils. Bd. v. FCC*, 219 F.3d 744 (8th Cir. 2000) (*Iowa Utilities II*), *reversed in part sub nom. Verizon Communications, Inc. v. FCC*, 535 U.S. 467 (2002) (*Verizon v. FCC*), ¶ 685.

designing more efficient network configurations, are able to provide the service at a lower cost than the incumbent LEC."[8] If anything, this approach risks *over*compensating ILECs for bottleneck monopoly facilities and encouraging inefficient investment.

31. Firms in competitive markets (which the ILECs opted to become when they pushed for the Act) have no *guarantee* that they will recover all of their costs. Instead, they have an *opportunity* to recover all of their costs *if* they are efficient providers of services and/or facilities. To the extent that an ILEC's "actual" embedded costs exceed the efficient, forward-looking, long-run costs for a particular unbundled network element, these excess costs are caused by its inefficiency. ILEC inefficiencies should not be borne by the new entrants that purchase network elements from the ILEC's network. The Commission must recognize that should it change its UNE pricing rules now to guarantee the ILECs recovery of some embedded cost benchmark, UNEs could no longer be treated as products in a market with competitive risks. Therefore, the Commission would need to make a corresponding reduction to the assumed cost of capital used in UNE pricing.

B. Any Change To The Commission's Existing TELRIC Requirements Will Be Widely Interpreted and Disputed, Destabilizing An Environment That Has Only Recently Begun To Stabilize.

32. After years of litigation (resulting in numerous false starts and relitigation in the states), TELRIC has been definitively affirmed as legally consistent with the intent of the Act. The U.S. Supreme Court rejected arguments from the ILECs that urged the use of historical costs as opposed to a TELRIC methodology in setting UNE prices, stating:

> As for an embedded cost methodology, the problem with a method that relies in any part on historical cost, the cost the incumbents say they actually incur in leasing network elements, is that it will pass on to lessees the difference between most efficient cost and embedded cost. Any such cost difference is an inefficiency, whether caused by poor management resulting in higher operating costs or poor investment strategies that have inflated capital and depreciation. If leased elements were priced according to embedded costs, the incumbents could pass these inefficiencies to competitors in need of their wholesale elements, and to that extent defeat the competitive purpose of forcing efficient choices on all carriers whether incumbents or entrants. The upshot would be higher retail prices consumers would have to pay.

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[8] *Id.*

> There are, of course, objections other than inefficiency to any method of ratemaking that relies on embedded costs as allegedly reflected in incumbents' book cost data, with the possibilities for manipulation this presents. Even if incumbents have built and are operating leased elements at economically efficient costs, the temptation would remain to overstate book costs to ratemaking commissions and so perpetuate the intractable problems that led to the price cap innovation.[9]

33. Thus, after years of uncertainty, the range of dispute over what the Commission's existing TELRIC standard means and how it should be implemented has finally begun to narrow. Numerous major conceptual issues about TELRIC have already been "slugged out" over many years in the courts and at the state commissions. TELRIC is now something that is much easier to grasp and implement than ever before.

34. Any fundamental modification to the existing TELRIC guidelines for developing UNE prices will likely inject substantial insecurity and uncertainty into the already less-than-robust emerging competitive market. Indeed, any major shift will necessarily involve enough new language that an entirely new array of creative, opposing interpretations will arise and effectively start the clock over in some respects, creating years of additional litigation and uncertainty (should any competitors survive long enough to sustain the debate). This is no small matter and should be given substantial weight in considering the value of any potential adopted change to the existing TELRIC guidelines.

35. As any state commission can attest, implementing broad economic principles and/or cost study guidelines is no cakewalk. That was true of TELRIC and will be equally true of any modified standard.[10] Every conceivable interpretation of this Commission's findings can and does arise, and is then bitterly disputed. State-by-state litigation requires intensive resources in each state and drags on for years, generating hundreds or thousands of pages of documents to review, massive discovery by all sides, rounds of testimony, supplemental testimony and errata, deposition transcripts and associated requests, motions, counter-motions, hearings and hearing transcripts with associated exhibits, rounds of briefing and associated motions, comments on proposed decisions, lobbying, implementation filings and resulting disputed rulings on those implementation filings, followed by appeals, which potentially can restart the entire process.

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[9] *Verizon v. FCC*, 535 U.S. 467, (2002), at 511-512 (hereinafter "*Verizon*").

[10] Indeed, it was even true when the Commission went so far in its *First Report and Order* as to set specific proxy price ceilings for the loop UNE (¶¶ 789-798).

36. While the state commissions engage in that effort, a parallel, but staggered, process occurs in the courts and, often, through attempted legislative end runs. Proceedings must often be restarted or adjusted multiple times. UNE pricing cases tend to be so resource-intensive that even important issues can get "lost in the shuffle" and smaller competitors cannot meaningfully participate.

37. For example, although the Commission itself created TELRIC and should thus have had the inside track in interpreting it, it nonetheless took the Commission's Wireline Competition Bureau more than two years to evaluate the specifics from just one state proceeding (Virginia).[11] The Bureau's *Order* provides key insights into why existing TELRIC proceedings are so complex. The "History of the Proceeding" section of the order explains that Verizon first filed multiple revisions to its study in the course of the docket and then filed multiple motions (including a request to submit new evidence) when hearings were complete.[12] Moreover, the *Virginia Arbitration Order* itself reflects the complexity of attempting to implement Commission rules at the same time that the courts and the Commission are making changes to the existing rules.[13]

38. Other state commissions have recently completed this massive task or are still in process on this massive effort. Even the relatively large California Commission, for example, has never adopted any "permanent" cost-based UNE prices for Verizon (or its predecessor GTE California), which controls several million lines in California, and is just in the early stages of examining the cost studies that will underlie the first "permanent" prices.

39. As consultants, we have encountered situations in which very interested parties have entirely withdrawn from all participation in cases because the sheer bulk of real or threatened ILEC discovery was so massive that it would have been impossible to manage. This is not unique to the TELRIC methodology. To the contrary, in response to the Commission request concerning possible steps for eliminating "excessive discovery" (*Notice* ¶ 61), we observe that a standard mandating closer conformance to ILEC "actual" data would tip the balance in state cost dockets in favor of ILECs, which obviously have exclusive control of those data. Such a standard would thus likely add a layer of controversy to new state proceedings concerning access to ILEC data and the interpretation of that data – in addition to new debates about the interpretation of the new requirements.

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[11] DA-03-2738, released 8/29/03, ¶ 7. Even that interval, however, vastly understates the time and effort it will ultimately have taken to "put flesh on the bones" of TELRIC for Virginia alone because it omits the time and effort needed to develop and present the case and ignores the fact that the Bureau's decision process is still not complete because there are multiple compliance filing issues and appeals that must still be resolved.

[12] *Id.*, ¶¶ 6-23.

[13] *Id.*, ¶ 5.

The Commission, therefore, should link any mandate to cleave more closely to ILEC "actual" data in developing UNE costs to a corresponding *increase* in the discovery obligation for ILECs (that is, the ILECs must be willing to reveal complete and detailed information on their "actual" networks and costs).[14]

40. Given the scope and scale of the effort involved, undoing the work that has been accomplished to implement TELRIC absent overwhelming evidence that such a change is necessary would be a major step backwards. This is particularly true because, as we will discuss further below, the proposed or potential changes that the Commission discusses in its *Notice* will not reduce the effort needed to develop UNE costs. To the contrary, the changes that the Commission is contemplating would tend to jettison what has already been determined and start the process anew.

C. Changing Multiple Ingredients At Once Can Change A Good Recipe Into a Poor One. The Commission Should Refrain From Further Modifying TELRIC Guidelines Until It Can Assess The Effect Of Other Significant Changes It Has Recently Mandated.

41. The Commission should avoid implementing multiple, potentially overlapping changes at the same time, which may have unintended consequences. The potential for harm to emerging competition from overlapping changes is particularly acute given the range of results that may result from the many "impairment" proceedings put into motion by the Commission's *Triennial Review Order.*

42. The Commission's mandated "impairment" analyses require that states carefully and "granularly" examine the loop, transport, and switching UNEs to ensure that competitors are indeed likely to be impaired without unbundled access to those ILEC facilities. Where competition is found to be unimpaired without access to those facilities, UNEs may no longer be available at TELRIC-based prices. However, where TELRIC pricing is no longer required, state commissions will need to establish prices based on the just and reasonable standards of Sections 201 and 202 of the Act. The Commission has not yet provided any guidance as to how states might develop such prices.

43. Significant changes in the method for *pricing* UNEs immediately following a large change in the *availability* of certain UNEs might impede access to UNEs in precisely those areas that states have found that UNEs are necessary to support competition. Again, the Commission should take great care not to order any changes that might result in such a double whammy to emerging competition.

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[14] Moreover, the Commission should simultaneously curtail any discovery obligation on CLECs as CLEC data would be less relevant than ever to a standard that mandates UNE costs based on whatever the ILECs' "actual" costs might be.

44. Moreover, changes caused by the impairment proceedings may or may not be compounded by the Commission's recent "clarifications" to its TELRIC guidelines for the cost of capital and depreciation,[15] depending on whether a state determines to reassess those inputs to its existing UNE prices.

45. As neither the *Triennial Review Order* impairment cases nor any reevaluation of cost of capital and depreciation rates has, (in the vast majority of states) yet been implemented, it is impossible to gauge their effect – particularly what their effect would be if these changes were layered on top of any change to the TELRIC guidelines. Thus, the Commission is now in a position something akin to a chef who has already determined to alter a cake recipe by cutting in half both the sugar and molasses and is now determining whether to eliminate the flour as well – without even having a chance to taste the result of the prior modifications. In regulation as in pastry, it is best to vary ingredients incrementally, checking the result at each point in the process. Otherwise, one may suddenly find oneself with an unpalatable mess, with no clear remedy other than to start over from the very beginning.

D. TELRIC Is Doing a Good Job of Meeting the Commission's Objectives

46. Given the high potential cost of changing the existing TELRIC guidelines, the Commission should only contemplate doing so in the face of clear evidence that the TELRIC guidelines are producing some undesirable result. However, no such evidence seems to exist.

47. As we noted above, the Supreme Court has already found the existing TELRIC methodology to be a reasonable implementation of the Act and relevant law. The Supreme Court further suggests that (despite ILEC claims to the contrary) TELRIC is doing a reasonable job of encouraging investment. Indeed, the Supreme Court found with respect to TELRIC that:

> ...it suffices to say that a regulatory scheme that can boast such substantial competitive capital spending over a 4-year period is not easily described as an unreasonable way to promote competitive investment in facilities.[16]

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[15] Federal Communications Commission, *Report and Order and Order on Remand in CC Docket No. 01-338,* 2003 WL 22175730 (F.C.C.) (FCC 03-36), released August 21, 2003, (*"Triennial Review Order"*), ¶¶ 680-684 and ¶¶ 689-690; *Virginia Arbitration Order* (DA-03-2738), ¶¶ 31 and 59.

[16] *Verizon*, 535 US 467 at 517. The footnote to this statement also notes that the incumbents' investment over the same period "affirms the commonsense conclusion that so long as TELRIC brings about some competition, the incumbents will continue to have incentives to invest and to improve their services to hold on to their existing customer base."

48. The Commission itself observes at ¶ 40 of the *Notice* that the ILECs have always had an open door to complain or obtain other compensation should they have any factual support for the proposition that the Commission's TELRIC guidelines are confiscatory (as opposed to simply creating a possibility for the ILECs to lose customers through equitable competition). Although they have never made any such showing, the ILECs nonetheless stand apart from not only the interexchange carriers and CLECs large and small, but also state commissions and consumer organizations, in their complaints that TELRIC must be upended or replaced.

49. At ¶ 39 of the *Notice*, the Commission asks for comment on any empirical tests to determine if UNE prices are currently "sending appropriate signals with respect to competitive entry and investment." At ¶ 40, the Commission asks for comments on ways to determine whether UNE prices allow ILECs sufficient recovery of costs.

50. Certainly, there is empirical evidence concerning both the level of CLEC investment and ILEC profitability. However, such evidence must be interpreted with care. Properly set UNE prices should spur efficient CLEC investment, but may not produce the same result in all situations and locations. For example, even when UNE rates are set properly, non-cost-based retail pricing, implicit subsidy mechanisms that are not equally available to all service providers, and/or a skewed implementation of price deaveraging may curtail CLEC investment. Also, investment made in reaction to any given change in UNE prices is not likely to occur immediately and may never occur if potential entrants do not have a reasonable expectation that existing prices will be stable for some period.

51. Finally, in many cases, the efficient outcome may be that no additional investment should occur.[17] As we noted above, given the new impairment rules and tests in the *Triennial Review Order*, UNEs will be available only where one would expect little or no investment in alternative facilities without UNEs. Hence, looking for signs of "sufficient" facilities-based investment in the face of the availability of TELRIC-priced UNEs is not a valid test of the validity of the UNE pricing methodology.

52. The notion of implementing a simple measure of whether UNE prices "provide for full cost recovery"—particularly by attempting to use some comparison with historic costs—is likewise a path into the bog. If it were reasonable to expect that monopoly ILEC embedded costs approximate ILEC forward-looking economic cost, then the Act itself would have been largely pointless as there would be no

[17] Indeed, if it made sense to invest in local exchange service facilities anywhere and everywhere, it would be surprising that the ILECs themselves—which are certainly as at least as financially fit as other new entrants, have significant scale advantages in obtaining equipment, and supposedly have expertise in building and managing local exchange networks—have not vigorously entered each other's markets.

reason to expect that competition could increase efficiency in the local exchange market.

53. Driven in part by UNE-based competition, the ILECs are working to become more efficient each year. Since the Act, they have begun engaging in massive mergers and workforce downsizing and have announced sweeping plans to implement more efficient plant all to that end. These cost savings do not manifest themselves overnight in the companies' books of account. Therefore, even if one assumes that ILEC books of account can be trusted (which is not the case), settling for some measure of UNE prices that locks in a fixed level of compensation to the ILEC to account for old monopoly inefficiency would lock that inefficiency into prices and thus rob consumers of the benefits that the Act was created to deliver.

54. Indeed, the initial effect of such cost-reducing programs can be *cost increases* for severance pay and other implementation costs. Presumably, the ILECs have conducted business case analyses that support their decisions to incur these front-end implementation costs, yet the expected long-run cost savings typically fail to make their way into the ILECs' cost studies. In one Pennsylvania cost proceeding, Verizon had the temerity to suggest that its merger-related cost savings were too speculative to reflect in a UNE cost study, even though Verizon had relied on far less certain forecasts of such cost savings to justify its proposed merger before the Pennsylvania Public Utilities Commission and other regulatory bodies.[18]

55. If no competition were emerging, one might legitimately question the merits of the Act or the way in which it has been implemented. Likewise, if local service quality were plunging, universal service were imperiled, or the majority of ILECs were financially unable to maintain their local networks, the Commission might have good cause to consider rebalancing its UNE pricing guidelines. None of these unfortunate outcomes appears to be on the horizon.

56. Indeed, we read the Wireline Competition Bureau's June 2003 report, "Local Telephone Competition Status as of December 31, 2002," as indicating that CLECs have been making slow but steady progress entering ILEC markets in the first six years since the Act was implemented. For example, Table 6 of the report indicates that in 16 states (41% of the 39 states for which data was reported), CLECs serve 10 percent or less of switched access lines; in 20 states (51%), CLECs serve between 11 and 20 percent of switched lines; and, in only three states (8%) have CLECs captured more than 20% of ILEC switched access lines. Overall, the CLECs' share of switched access lines is reported to be 13%, which indicates a CLEC market-share increase of around 2% each year, on average,

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[18] Pennsylvania Public Utilities Commission Docket No. R-00016683, Hearing Transcript at 200-203 (February 19, 2002, Verizon Recurring Cost Panel).

since the Act passed. That level of progress seems to indicate that, given the heretofore existing regulations, it has become possible (in some states), but not easy, to begin entering the local exchange market as a CLEC.

57. Table 7 of the report depicts the change in the CLEC share of switched access lines by state from December 1999 to December 2002. Again, the report provides no basis for panic. Overall, we observe that a number of the states whose regulators have been more rigorous in implementing the FCC's existing TELRIC guidelines (*e.g.*, New York, Michigan and Illinois) are among those with the highest level of CLEC entry. This suggests that, over time, the existing TELRIC guidelines may lead to sustainable levels of competitive entry. On the other hand, the data for those same states show that the existing TELRIC guidelines also do not imply that the ILECs are somehow disadvantaged competitors.

58. For example, CLEC penetration in New York has, according to the report, remained flat since December 2001. Thus, Verizon appears to be holding its own against competitors in that state. SBC has recently boasted that in its Western and Southwestern regions wholesale access line deployment has declined dramatically in recent quarters. SBC indicated that it sees a "Tremendous Midwest Opportunity" to increase revenue by winning back customers from UNE-Platform based competitors in its remaining region and that it intends to do so with marketing plans it is "executing today."[19] This suggests that the ILECs' losses of lines to competitors are not spiraling out of control under the existing guidelines. Indeed, it suggests that, contrary to all their claims to regulators, ILECs are fully able to compete with competitors who use a UNE strategy, with UNEs priced according to the existing Commission guidelines.

59. Table 10 of the report, which breaks down CLEC-provided lines into the three modes of entry mandated by the Act (facilities-based, UNE, and resale), shows that, although UNE-based entry accounts for a slight majority of CLEC lines (55%), it is by no means outrunning the field. Indeed, the report indicates that nearly 26% of CLEC-provided lines are provisioned on CLEC-owned facilities. Thus, the report does not support a conclusion that the FCC's existing guidelines are discouraging investment or providing some unreasonable advantage to CLECs.

60. Finally, we note that New York (the apparent leader in CLEC entry) indicates that combined ILEC and CLEC trouble reports per line have continued to decline year-over-year since 1996, including a particularly significant improvement in 2002 relative to 2001 and prior years.[20] This result suggests that the Commission's UNE pricing guidelines are not likely endangering service quality.

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[19] SBC 2003 Analyst Conference, Marketplace Execution presentation by Ray Wilkins.

[20] Analysis of Local Exchange Service Competition in New York State, reflecting company reported data and statistics as of December 31, 2002, p. 27.

61. Overall, the Commission's data suggest that CLEC competition is occurring and appears to be delivering some benefit. We also note that, although we have been involved in UNE price determination in many states, we have seen no evidence that UNE prices anywhere are endangering the ILEC's ability to invest in its network, endangering the ILEC's ability to compete, or endangering the ability for states to maintain universal service objectives or are, in fact, causing any other notable ill effect.

62. To the contrary, ILECs appear to have had sufficient resources at hand to have already captured a huge share of the interexchange market, a primary *quid pro quo* provided by the Act for mandated local competition, while entry into their local exchange markets is still just beginning to take root. For example, Verizon reports that it has already replaced Sprint as the third largest long distance carrier nationwide in terms of number of customers.[21] SBC's Chairman and CEO recently boasted that SBC expects "[c]ompanywide consumer retail LD penetration of more than 40 percent by year-end 2004."[22] Moreover, the ILECs have already been pushed by the mere threat of competition to accelerate deployment of advanced services such as Digital Subscriber Line ("DSL") services and have dominated the DSL market – further boosting their bottom line. Overall, there does not appear to be any reason to conclude that the ILECs have been or are being injured by the current UNE pricing guidelines.

63. This simple survey of the available facts suggests that the Commission should require some concrete showing that its existing regulations are somehow failing to do an adequate job of advancing the goals of the Act before implementing any market-disrupting changes. By maintaining rules that reasonably implement the requirements of the Act and allow competition to develop, or fail to develop, according to those rules, the Commission can provide some measure of stability and predictability to an industry much in need of those qualities.

64. Ideally, the Commission's role in this process is to develop ground rules that squarely place the task of picking the "winners" in the newly competitive local exchange market with consumers and investors, as opposed to favoring any class or mode of competition. The Commission should thus strive to maintain a level and stable environment in which beneficial competition can emerge; it should not second guess which business strategies or modes of entry are the most desirable, nor should it bend its rules in favor of whichever party squeaks the loudest.

65. More important, as we discuss below, an examination of the work that has gone on in the states to implement the existing TELRIC guidelines shows that TELRIC

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[21] *See*, for example, Verizon Press Release, "Verizon Announces Estimated Charges and Ongoing Savings from Voluntary Separation Plan," (December 9, 2003), a copy of which can be found at: http://newscenter.verizon.com/.

[22] SBC 2003 Analysts Conference presentation.

is neither excessively difficult to implement, nor excessively hypothetical. Hence, in light of the work that the states and parties have done in recent years to advance models that incorporate the Commission's TELRIC guidelines, the concerns reflected in the *Notice* substantially dissolve. Indeed, it appears that the bulk of the changes that the Commission proposes to consider are based on perceptions of problems that may have been relevant to early TELRIC estimates, but that have been subsequently overcome, or relate to aspects of TELRIC modeling that have little practical importance.

IV. THE COMMISSION SHOULD CAREFULLY DISTILL MYTHS FROM FACTS CONCERNING EXISTING TELRIC ANALYSIS BEFORE CHANGING ITS GUIDELINES.

66. In considering whether and, if so, how it should modify its TELRIC requirements, the Commission may benefit from updated facts concerning the status of TELRIC modeling in "real world" state litigation and concerning what is readily knowable about an existing ILEC network. Based on our review of the *Notice*, we believe that the Commission may be able to resolve many of its concerns without implementing any change to its current TELRIC guidelines. To that end, this section of our declaration will focus on bringing to light relevant facts and exposing what we understand are common myths about TELRIC analysis.

A. Not Even The ILECs Have All The Data Necessary To Implement A Commission-Mandated Costing Methodology That Would Tie UNE Prices Closely To The ILECs' "Real-World" Costs

67. At ¶ 52 of the *Notice*, the Commission states, "We tentatively conclude that our TELRIC rules should more closely account for the real-world attributes of the routing and topography of an incumbent's network in the development of forward-looking costs." Even if there were a need to modify the existing TELRIC requirements in this manner, and we do not believe there is, this proposal suffers from what we believe is an insurmountable problem.

68. For the most part, beyond the data that are already incorporated into existing TELRIC studies, real-world detail concerning the ILECs' embedded "routing and topography" does not exist or is typically not in a usable format. Thus, we expect that a requirement to incorporate such data in UNE pricing would prompt a massive and complex undertaking, which is likely doomed to failure. Fortunately, as we explain below, the need for such detailed "real-world" data is largely a "red herring" raised by the ILECs and is not central to a reasonably accurate determination of forward-looking economic cost.

69. In many of the state UNE costing dockets in which we have been involved, the ILECs claim to have based the loop cost studies that they sponsor on "real-world" data concerning their cable routing and "real-world" right of way limitations. On closer examinations, those claims fall apart.

70. In our experience, other than special one-route or one-central-office-at-a-time analyses developed to create a "horror story" based on isolated anomalies that an ILEC has found in a competing cost model, ILECs rarely have any usable records at the level of granularity that would be required to model actual routes and rights of way. Indeed, with one exception (for a single urban market in Alaska), we have never seen an ILEC study that produced anything approaching a model of actual loop paths and rights of way.[23]

71. One explanation of that fact may be shown in SBC's recent assertion to its investors that one of its major opportunities for savings is to "move from **paper to PC**" via "outside plant records conversion" the "thousands of pole maps, cable records and pair information distribution area maps and conduit records — still mostly on **paper.**"[24] In other words, to the extent that SBC has data concerning its "real-world" plant (assuming they are accurate), those data are buried in thousands of paper documents in widely dispersed locations.

72. SBC's latest generation loop cost study is (at least in some states) reportedly based on an amalgam of "actual" feeder lengths and a single "design point"[25] entry representing the entirety of the distribution plant in each distribution area. The "design point" is the longest possible loop that may someday exist given SBC's plans for its overall territory—plans that SBC enters into its plant records for the purpose of selecting copper cable gauges. The design point is not and was not intended to be a stand-in for the entirety of the "real-world" distribution network. Even if the design point represented an actual loop (which it often does

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[23] As suggested in the *Notice* at ¶ 53, what the ILECs actually seem to mean when they speak of "real-world routing" is that commissions must ignore any data source other than the ILECs' own presentation of how much loop plant they have because that must have been what the "real world" required. Not only do the ILECs typically lack good loop length data (discussed below), they also, as a rule, make no effort to prove with factual support that their existing cable deployment bears any rational relationship to an efficient or forward-looking deployment. It is equally reasonable to presume that existing ILEC cable deployment (1) is a patchwork layout built to take advantage of existing plant placed decades ago, (2) routes around obstacles that no longer exist, (3) reflects deliberate overbuilding over decades to exploit weaknesses in rate of return regulation, *etc.* Simply adopting whatever the ILECs claim the "real world" caused them to build, absent a much higher burden of proof than we have seen applied in any state, would be akin to adopting no standard at all.

[24] 2003 Analyst Conference, Service and Operations Initiatives presentation, John Atterbury.

[25] The "design point," in this context is the longest possible point to which an engineer might need to design a loop in the future, even if that loop might never be built. In other words, the "design point" takes into account whatever undeveloped stretches of land exist in the ILEC's operating territory.

not), it is a far cry from a representation of the entirety of the "real-world" distribution network. Indeed, even if one assumes that the average distribution area has as few as 100 customers, the design point (as a stand-in for the longest possible loops in each distribution area) would represent a 1 percent sample of existing "real-world" loops.

73. As the Commission's Wireline Competition Bureau recently discovered, Verizon's recurring loop cost study was likewise based on a survey of loop length data by distribution area or group of distribution areas gathered from the early 1990s for which Verizon never supplied backup/source data.[26] Thus, as a practical matter, data accurately representing "real-world" routing or even loop length are often nonexistent. To the extent that the ILEC does have that information, it is typically unaudited, ill-adapted for use in cost modeling and subject to interpretation.[27]

74. As for more closely reflecting "topography," it is not entirely clear what factors the *Notice* intended to address. Many existing TELRIC studies already capture topographical features with a high degree of "reality." For example, existing models include extensive data regarding local soil conditions and population density in local areas. This information enables the models to make appropriate assumptions concerning structure types and to allow for appropriate cost differentials in locations where, for example, rock must be cut to place cable.[28]

75. Concerns about "topography," also could reference ILEC complaints that logic-based modeling methods employing, *e.g.*, a minimum spanning tree calculation and rectilinear routing to estimate cable distances fail to precisely reflect each and every "real-world" obstacle such as highways and rivers. These high-profile ILEC complaints, although true in the most literal sense, have little significance for the bottom line of cost modeling.

76. We are not aware of any party that has advocated developing costs that ignore either real-world soil conditions or physical obstacles. On the other hand, it would also be wrong to model the world as if each stream and highway were an impenetrable wall. Local loop plant can and does sometimes ignore such

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[26] *Virginia Arbitration Order* (DA 03-2738), ¶¶ 53 and 172. We note that Verizon has since produced an all-new loop cost model that, it claims, contains more precise data regarding its loop plant routes. It is our understanding that this new study, filed in California and Washington to date, has only been available for review for a short time and has not yet been examined or ruled on by any state commission.

[27] For example, ILECs may misinterpret or misuse their own "actual" data.

[28] We have also seen ILEC models that misuse this level of supposed "real-world" data by developing costs for areas reported as having both bedrock and water at 0-feet – incurring the highest possible placement costs apparently to serve mermaids who swim through rock.

obstacles. Overpasses and underpasses exist (or have pre-placed conduit), and rivers are crossed by bridges.

77. Neither ILECs nor CLECs appear to have data at a sufficient level of detail to identify the circumstances under which plant *must* be rerouted to avoid potential obstacles. Moreover, a model that actually incorporated such an intensive level of detail would be incredibly slow and cumbersome to run and the resultant (detail intensive) cost study would be impossible to audit.

78. Models and simplifying assumptions exist in part because the "real-world" is too big to inventory and evaluate one cable and splice at a time.[29] Simplification—even when it occasionally leads to cases in which particular cables are assumed to follow a path that actual cables do not—is a valid modeling approach as long as the simplifying assumptions produce reasonably accurate estimates of cost on average over the entire area to which the estimate is applied. UNE cost study results rarely are applied at any level below the wire center. Therefore, route-specific anomalies caused by simplifying assumptions have no significance as long as the total cable lengths and the amounts of each structure type for which the model calculates costs reasonably reflect the topography of the wire center as a whole.

79. Hence, the meaningful question is whether the modeling technique(s) used allow enough (but not too much) plant to account for real-world obstacles, on average. It is far from clear that the ILECs' unaudited, scant and often unrepresentative "real-world" data produce more accurate results than do other modeling techniques, such as a rectilinear routing assumption.

80. Again, to our knowledge, no ILEC has ever offered to provide sufficient data to establish, on average, the route distance required for loop plant deployed in the "real-world," including whatever obstacles actually exist.

81. More important, in our experience, no ILEC has actually attempted to show that TELRIC study assumptions do not, on average, adequately or more than adequately compensate for such obstacles by, for example, building extra distance into every route using a rectilinear routing assumption. Instead, incumbents spin stories about how modeled assumptions depart occasionally from the thing modeled, a fairly obvious point about which no one disagrees.

82. As noted above, existing TELRIC studies already include a relatively sophisticated level of information about "real-world" location-specific

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[29] Despite their supposed access to "real-world" data, the ILECs themselves always have used simplifying assumptions in developing UNE cost studies – assumptions which curiously tend to increase UNE costs. For example, SBC's new LoopCAT study assumes large Network Interface Devices and drops at every residence (and even every phone booth), assumes that no residents live in multiple dwelling units, and assumes that SBC deploys only a limited spectrum of relatively large Digital Loop Carrier ("DLC") sizes, even in rural areas with few loops.

topography. In recent years, the commonly used TELRIC models such as the "HAI Model" (also referred to as "HM" or "HAI") sponsored by AT&T and MCI have been modified to incorporate massive amounts of "real-world" ILEC data. To the extent that data are available in a usable format, HM has been filed using not only actual ILEC wire center and wire center boundary information, but also incorporating ILEC "actual" customer location and service type data to pinpoint via geocoding over 90% of an ILEC's actual customer demand. That level of complexity and precision—combined with routing and engineering modeling assumptions that have been refined over the course of years of nearly constant scrutiny by regulators, ILECs, and other parties—means that existing TELRIC models have been refined to a level of "real-world" precision that will be hard to recreate using any new approach. Moreover, any such replication will not happen quickly.

83. There may, however, be two important ironies lurking behind this ILEC argument. First, in our experience, when this assumption has been tested, it has proven false. Instead, it appears that non-ILEC TELRIC studies may overestimate (or at least do not underestimate) total cable length requirements caused by "real-world" routing and topography requirements, perhaps due to conservative assumptions intended to ensure that they do account for real world topography adequately. For example, in a recent California proceeding to determine UNE prices for SBC, analysis showed that the HM produced a longer average loop length than did the SBC study that supposedly reflected SBC's "real-world" routing and topography in California.

84. Similar implications about the relative importance of "real-world" routing have been found relative to the Commission's own universal service cost model, commonly referred to as the "Synthesis Model." A comparison of BellSouth's cost proxy model ("BSTLM") and the Synthesis Model suggests that the Synthesis Model substantially *overstates* the distribution distance that BellSouth claims it will encounter in the forward-looking "real-world." Specifically, the BSTLM calculates about half the distribution route miles (42,851 / 81,660 -1 = -48%) of the default FCC Synthesis Model and 34% fewer route miles (42,851 / 64,654 -1 = -34%) than are calculated by the Modified Synthesis Model.[30]

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[30] The cited figures are found in an October 4, 2000 *Ex Parte* Presentation to the FCC, Federal-State Joint Board on Universal Service; CC Docket No. 96-45, Forward-Looking Mechanism for High Cost Support for Non-Rural LECs; CC Docket No. 97-160, based on Florida data.

We note that the comparison with BellSouth's BSTLM is somewhat different from comparisons with Verizon and SBC models in that BellSouth does not claim its model replicates "real-world" routes. However, this comparison still provides insight into the direction of the gap between ILEC-generated estimates of reasonable forward-looking design and other modeling approaches.

85. Mr. Jonathan Lee undertook a comparable analysis, on behalf of the Division of Public Utilities, Department of Commerce in Utah, by placing Qwest's inputs into HM, sponsored by AT&T. Mr. Lee concluded that, when loaded with Qwest's recommended inputs (*i.e.*, the same inputs that Qwest used in its own cost study), HM produced a higher loop rate than did Qwest's study and that Qwest "would actually benefit by the use of the HAI model."[31] Mr. Lee further noted that with his division's suggested inputs, the two models produce nearly identical results. On that basis, Mr. Lee further concluded that proper selection of input values, as opposed to the modeling platform (which deals with loop length determinations), "is the key to setting a reasonable rate."[32]

86. Thus, the difference in ILEC and CLEC interpretations of how to model "real-world" routing and topography may explain ***none*** of the difference between the remarkably high UNE costs results that ILECs tend to report and the results modeled by CLECs.

87. Second, we note that many ILECs (*e.g.* SBC, Verizon and Qwest) are currently asserting to state commissions that (1) their existing "TELRIC" studies should be and are based on the characteristics of their "actual" embedded loop plant in the ground today (*i.e.*, exactly the approach that the Commission confirms is *inconsistent* with TELRIC and considers as an option for a future, different standard in ¶ 53) *and* (2) their existing cost studies comply with the TELRIC guidelines. As ILECs have already insisted that their existing, "actual" loop data are the appropriate inputs for a TELRIC study, should the FCC adopt a new approach, it would be interesting to see how those ILECs will now assert that the same data and approaches they have been using heretofore are also consistent with the new standard.

88. All of this suggests that this issue is a "tempest in a teapot" – not a legitimate basis for modifying the existing TELRIC guidelines. Moreover, if ILECs could provide reliable, auditable data concerning route lengths, one could easily scale the total route length in existing TELRIC models to match those factual data, if desired. However, the result would likely be to decrease cable lengths and costs.

89. Moreover, there are at least three good reasons that modeling "the cost that would actually be incurred (including actual placement costs) to place new facilities in the same location," as the *Notice* suggests at ¶ 53, is indeed a bad idea. First, mandating that states revamp TELRIC to require route-specific ILEC "actual" data would require tremendous additional effort – likely for no return whatsoever.

90. Second, this approach is likely to lead to a quagmire of meaningless "mix-and-match" results as existing ILEC loop design and loop lengths will never rationally

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[31] Direct Testimony of Jonathan Lee, Docket No. 01-049-85, Public Service Commission of Utah, 9/27/02, pp. 20-21.

[32] *Id.*

correspond to a design that makes sense given forward-looking equipment selections. Thus, if one first fixes the existing ILEC "actual" routes, how does one determine which facilities should be placed in those locations given that many of those routes were placed before fiber cable (let alone the massive capacity of current DLC systems) existed? Even if one assumes (unreasonably) that the ILECs always made efficient decisions in the past, their embedded feeder and distribution lengths are based on decisions made in a different world. Since many routes were planned, telecommunications equipment has changed substantially. For example, loop electronics systems have become much more sophisticated and economical, leading to a much greater deployment of fiber cable.

91. Many existing routes and distribution areas were defined and routes to those areas plotted decades ago – well before fiber optics and DLC systems were deployed in the loop plant network. Today, for example, a fiber cable placed on a pole can support far more customers than could the copper cable available decades ago. If one assumes the same layout as was designed to accommodate all-copper facilities of the quality and range available 20 years ago, one may well end up with absurd results – such as the cost of large DLC systems assumed in places with a handful of customers – by forcing the costs of modern facilities into dated plant layout.

92. This is not a hypothetical concern, but is instead an observation based on unreasonable, cost-inflating assumptions that we have seen in existing ILEC studies. Moreover, as we noted above, because the existing "real-world" routes reflect real-old engineering guidelines and equipment limitations, it is hard to imagine any definition of forward-looking economic costs that can be stretched widely enough to justify the use of such "real-world" routes as study inputs.

93. Third, should the Commission choose to go that direction, it would need to begin by placing an additional and heavy burden on the ILECs to deliver the supposed "real-world" data in a format that is auditable, verifiable and readily usable by non-ILEC parties.

94. Relative to this point, it is difficult to identify which requirement would be the greatest hurdle. The Commission would need to provide for some manner of audit (and likely subsequent record clean-up) before it could have any faith that ILEC data on the whole were more "real-world" than data in current TELRIC studies based on coded customer locations and logical engineering assumptions.[33]

95. A requirement with teeth that ILECs provide usable information for other parties is particularly appropriate given the difficulty parties have encountered in state

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[33] The limitations of ILEC data hit particularly close to home for one of us (Ms. Murray). Ms. Murray's own ILEC's records repeatedly misreported the length of her business loops when she attempted to obtain DSL service at her prior address. Although the ILEC supposedly had every incentive to produce accurate data to complete a sale (to a competitor), it failed to do so.

dockets in obtaining the detailed customer location data that has been used in recent HM filings. Simply obtaining usable input data from the ILECs is a process that has taken months of negotiation.

96. As suggested above, in reality ILECs often have little reliable or specific detail of their existing networks. Moreover, the data they have are often inconsistent and extremely complicated to use in modeling. For example, ILECs may have extremely detailed data in their engineering databases concerning engineering special service loops, but have no data or only sketchy data concerning the address at which that loop actually terminates. The exact opposite may be true for a standard consumer market basic exchange loop. Based on ILEC studies presented to date, ILECs often have no mechanized detail concerning their distribution facilities, have data that mixes existing plant with engineering plans for future/ultimate plant, have no information on how much of their plant is actually shared with other utilities or carriers, have databases that reflect multiple feeder and interoffice cables but cannot identify which are obsolete or were long ago fully depreciated, and that may not clearly differentiate which facilities are used for basic UNE loop-type services and which are "overlay" facilities supporting packet services or other facilities that may never be unbundled .

97. Moreover, the limited "actual" routing reported in ILEC records reflects decades of monopoly-cushioned building decisions that are not at all affected by recent price-cap regulations, *etc.* Instead, they are governed by local practices and methods written by monopolies and based on equipment options that often predate fiber cable, let alone modern DLC equipment and Serving Area Interface ("SAI") sizes. Thus, much of the ILECs' embedded data cannot be assumed relevant to any forward-looking economic analysis, under whatever label.

98. In other words, one would need to audit the layers of old ILEC data (which will be different for each ILEC and likely each ILEC region) to determine if the data bear any relationship to relevant "real-world" route miles. This would likely be far from a simplification of the existing TELRIC process (which allows the possibility for state commissions to adopt simplifying assumptions). This would contravene the Commission's goal of simplifying its existing guidelines.

99. Given the tremendous problems that parties have had obtaining even basic customer location data from ILECs, a negotiation process that has often taken months when the data was made available at all, it might also be that simply obtaining usable data in any format would prove to be an insurmountable obstacle.

B. <u>A Short-Run Approach Also Is Not Practical</u>

100. At ¶ 54 of the *Notice*, the Commission asks if it "should define the relevant network as one that that incorporates upgrades planned by the incumbent LEC over some objective time horizon (*e.g.*, three or five years), as documented, for example, in an incumbent LEC's actual engineering plans."

101. The reality of state litigation is that any such modification would do at least as much to complicate as to simplify the current situation (while most certainly harmfully destabilizing it for some time). At a minimum, any such approach would again create massive auditing problems as it would instantly create an incentive for the ILECs to plan upgrades with the effect of those upgrades on competitors as a strategic objective.

102. Moreover, the Commission would need to generate reliable guidelines for determining which announced ILEC plans are likely to be fulfilled. For example, when SBC announced its "Sweeping Broadband Initiative" called Project Pronto to investors on October 18, 1999, $720 million of that initiative was described as "targeted for a technology that SBC is pioneering called Voice Trunking over ATM, or VTOA."[34] SBC asserted that VTOA had already been tested "exhaustively under real-life conditions," which purportedly revealed that it would reduce the number of tandems by 4:1 and reduce trunk demand by 74 percent in the Houston area alone (implying that this would reflect the general transformation of SBC's forward-looking network).[35] SBC has, however, subsequently asserted that it scrapped its VTOA plan entirely. Any modification to UNE pricing standards to provide specific deference to ILEC announcements or plans would need to include sophisticated safeguards to prevent a swing in UNE prices due to any such unfruitful announcement.

103. Likewise, the Commission would need to design guidelines for assessing why ILEC plans do not call for the deployment of technically feasible options within the chosen "objective time horizon." Such new safeguards would be necessary to ensure, for example, that ILECs do not omit plans for multi-carrier-enabled DLC systems merely because that omission would lead to higher UNE costs and prices.

104. As a practical matter, this approach would likely combine the worst of all worlds by basing UNE costs in part on ILEC records concerning what is in the embedded network and in part on ILEC decisions about what they claim will be in their network in the future.

105. This approach would first open the door to precisely the type of "mix-and-match" gaming of study assumptions that the current TELRIC guidelines avoid. ILECs would undoubtedly again argue that the proper means to implement such a "new" guideline is to determine the per-unit cost of small incremental additions to their extensive embedded networks and then assume that those incremental costs are the same as the cost of every component of the network, including the massive copper and/or fiber capacity in the urban core that may, in reality, cause the incumbents no "real-world" cost beyond maintenance expense. Likewise, the ILECs would likely attempt to determine the cost of extensions occurring today

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[34] SBC Investor Briefing No. 211, October 18, 1999, p. 4.

[35] *Id.*, p. 6.

on the fringes of suburban areas and apply those costs as if they represent the "real-world" cost of long-established, closer-in customer locations.

106. Second, the notion that moving to modeling based on "real" ILEC network data or plans will simplify UNE pricing is a mirage. As the Supreme Court noted, wading through ILEC accounting data (or the ILECs' announced plans) is akin to reading a "dime store novel" consisting of layers of assumptions one would not likely find in the "real world" concerning, *e.g.*, payments to and from layers of affiliates (with differing markups), costs for obsolete "actual" equipment and activities, juggling of costs between expense and investment buckets, allocations of retail and wholesale costs across accounts, allocations of costs to regulated and nonregulated activities, allocations of costs between recurring and nonrecurring activities, and in the future, increasing allocations between UNE and non-UNE network components, *etc.* The expectation that one can simplify UNE cost development by mandating a process that starts with such data is a false hope.

107. Moreover, any move toward using ILEC "actual" costs would again require vastly increased access to those costs at a *detailed* level so that small parties could easily separate out costs that are related to retail, nonrecurring activity, broadband, work for affiliates, inefficiency, *etc.* This would end up looking more like an audit and/or old-time rate case, which the ILECs would again fight "tooth and nail." It would also require the ILECs to provide clear documentation of their near-term plans – which they have been unable or unwilling to provide in state dockets. The detailed analysis required by any such new standard would again shut out any possible participation by smaller market entrants and would impede the entry of new potential competitors.

108. Finally, shifting to a standard rooted in the ILECs' "actual" data and plans would destroy any possibility of relying on public and verifiable data sources.

C. TELRIC Is Not Unduly "Hypothetical"

109. Overall, it appears that the Commission is somehow concerned in its initial tentative conclusion (*Notice* ¶ 52) that the existing TELRIC guidelines are too hypothetical and not sufficiently "real-world." Although this may have been true, to some degree, of the first generation of TELRIC models, it is far from the case with some of the studies available today. The best current models make sophisticated use of topographical data, precise customer location inputs and engineering assumptions that have been tested through many state dockets and by this Commission.

110. Moreover, in recent years, due in large part to ILEC complaints about the public data sources used as the basis for inputs not matching "real" ILEC data, other parties have progressively engaged in more and more sophisticated discovery concerning "actual" ILEC costs. (Of course, the ILECs also have complained vigorously about these discovery efforts.) For example, it is relatively common for other parties to confirm their input assumptions (either in direct or reply) with

prices obtained from actual ILEC contracts for materials and/or labor. It is thus possible to introduce a substantial "real-world" basis into a TELRIC analysis. In other words, the inputs in TELRIC studies often are derived from actual ILEC costs (with adjustments, as necessary), at least where the ILECs make available the relevant data.[36]

111. Not so curiously, it has also been our experience that when CLECs are able to obtain "real-world" ILEC data in lieu of previous assumptions based on publicly available data, use of that information tends to produce significantly lower cost estimates. In other words, it appears that the ILECs are able to obtain "real-world" local exchange plant inputs at prices well below those that are quoted to the public. That is hardly a surprise given their scope and scale of operations and their prominence as buyers of telecommunications equipment. The scale of operations that enables the ILECs to obtain such prices is yet another legacy of their prior protected monopoly operations; therefore, it is entirely appropriate that UNE prices should reflect those "real-world" input prices.

112. Should the Commission wish to enable states to employ more "real-world" data in UNE cost calculations, it might require ILECs to make all existing equipment and labor contracts (both internal and external, with all terms, including volume discounts and other incentives, identified) in a readily reviewed format available to the state commissions and all parties well in advance of new UNE cost dockets. As the bulk of current ILEC contracts are territory-wide, this should impose relatively little burden on the ILECs and on other parties and commissions relative to the current process of having to fight protracted discovery battles in each state to obtain this basic "real-world" cost data.

D. Existing TELRIC Efficiency Requirements Are Appropriate

113. The Commission also expresses concern regarding what type of efficiency standard to apply and how to apply it.[37] Consistent with the goal of the existing TELRIC guidelines to replicate competitive input prices, the rules for setting UNE prices should continue to strive to capture the levels of efficiency that pertain in competitive markets. This objective is similar to the "best in class" performance objectives that the ILECs cite when justifying mergers and when addressing investors. Holding UNE prices to the level that a competitive "best in class" provider could achieve (monopoly scale aside) is entirely consistent with the objective of creating a competitive local exchange market.

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[36] In saying this, we do not mean to imply that we agree that UNE cost study inputs should necessarily match costs currently available to ILECs. For example, labor rate loadings in a competitive market may be lower than those of a monopoly. In that case, loadings representative of a competitive market might be appropriate instead of "actual" current data.

[37] *Notice* ¶¶ 57-58.

114. Moreover, if price-cap regulation (which predates the Act) had motivated the ILECs to be as efficient as companies in competitive markets, there would have been no need for Congress to require that the ILECs open their local exchange markets to competition. Instead, price-cap regulation implemented in conjunction with earnings ceilings for regulated operations may actually provide an incentive for ILECs to over-report time spent on regulated activities (such as when a technician is in the field working on both a regulated loop and nonregulated advanced services) to avoid sharing obligations or other earnings limits associated with regulated earnings.

115. Likewise, there is no reason to believe that the efficiency incentives of price caps guarantee least-cost decision making in the case of facilities that will wholly or largely be used by the incumbent's competitors. For example, there is no reason to believe that the efficiency pressures of price caps have had any effect on the cost inputs for the gateway systems and software modifications for which incumbents seek recovery through an "access to OSS" charge. Furthermore, large portions of the ILEC networks were built before price-cap regulation was even in place.

116. Adopting a presumption that whatever an ILEC is doing is efficient would be a huge step backwards – akin to going back to a rate-case approach minus the scrutiny of the ILEC-reported rate base. The most obvious problem would be determining which ILEC costs to presume are efficient. Certainly, the answer is not whatever is reported on the ILEC's books. Increasingly, ILEC "costs" are merely transfer payments between ILEC state operations and centralized ILEC-wide service organizations and purchasing organizations. The books of state ILEC operations also include expenses that state operations incur on behalf of out-of-state sister operations. These transfer payments provide a substantial opportunity for shifting costs between ILEC operations and would require careful examination to determine whether efficiency benefits have been "booked out" of individual state operations and into the unregulated ILEC-wide organizations.

117. As another example, ILEC "real-world" costs are, more and more, an amalgam of common investments that support UNE and non-UNE functions such as affiliate DSL and broadband deployment. These costs are not always easily separated and are not necessarily identified in any way in the ILEC's accounting costs.

118. For such reasons, state commissions are more likely to obtain meaningful results based on direct estimates of the equipment and labor required to provide UNEs when such detail is available than from ILEC booked "actual" costs.

119. In contrast, a presumption that the ILEC's reported costs are efficient is an invitation to game those costs. The Commission need only read the paper to realize that the ILECs themselves do not consider their current operations efficient. As noted above, SBC has recently reported to investors that it has identified and targeted over a billion dollars of cost reductions from currently inefficient operations. Verizon is currently in the process of a substantial downsizing. When

the ILECs themselves indicate that they must become more efficient to operate in a competitive environment, it would be perverse to mandate that state regulators assume the ILECs already have achieved all possible efficiencies.

V. CONCLUSION

120. The Commission will not serve any party well by changing its TELRIC guidelines at this stage. Any significant change will likely:
    - Harm consumers by slowing the flow of benefits from competition, benefits that consumers are just beginning to see in the local exchange market and that have been made possible to a significant extent by the existing UNE pricing guidelines;
    - Remove the incentive for efficiency that the ILECs now experience as a result of retail competition from UNE-based providers;
    - Add immeasurably to the already heavy burdens that state commissions face in carrying out their responsibilities under the Act;
    - And drive another nail into the coffins of the handful of competitors that have survived the early rounds of industry shakeouts.

121. The last point is of clear significance for the CLECs that are co-sponsoring this declaration. These survivors are prepared to invest in expanding their competitive local exchange operations. But, the uncertainty resulting from yet another change in the UNE pricing rules would create an additional setback from which even these CLEC survivors might not recover.

122. By changing regulations in midstream to protect the ILECs from a mode of competition intended by the Act, the Commission will, in fact, merely provide the ILECs an excuse to delay innovations, investments and network improvements that competition would otherwise have inspired. Anecdotal claims of harm to investment incentives or ILEC profitability, without hard evidence to support those claims, cannot justify such a harmful course of action.

123. TELRIC-based UNE prices have not brought about a nirvana in which all consumers may choose among a host of UNE-based and facilities-based providers (including the ILECs) offering an array of attractively priced, innovative service packages while the ILECs simultaneously maintain the full level of profits they were able to achieve when they held the exclusive right to serve local exchange customers in their respective service territories and the economy enjoys the benefits of hundreds of billions of dollars of investment in new (but cost-effective) infrastructure embodying cutting-edge technology. But, when one considers the number of conflicting objectives implicit in that description of nirvana, it is amazing that the state of telecommunications competition even remotely approaches that unrealistic ideal.

124. Much remains to be achieved before competition can deliver its full benefits. In our view, changes to the current UNE pricing rules are far less important in

achieving that end than, *e.g.*, further progress in eliminating implicit subsidies from the ILECs' retail rates and replacing them with explicit, competitively neutral subsidies to support universal service. Many of the concerns that ILECs have expressed about the wholesale pricing structure for UNEs actually are complaints that UNE-based competition is unfair in light of current retail pricing. "Fixing" the retail problem through changes in UNE pricing rules is a step backward, and one that the Commission should resist.

125. If, however, the Commission does opt to modify its UNE costing and pricing guidelines, it should, at a minimum:

- Provide a realistic implementation schedule for states, with an allowance for how recently each state has reviewed and implemented the current guidelines (*e.g.*, states that have recently examined or reexamined UNE prices should be exempt from implementing the new guidelines for some period);
- Provide an opportunity for states to opt out of implementing the new guidelines at all for some period if competition is not progressing up to par with that state's expectations;
- Allow states to require the ILEC to demonstrate that existing UNE prices are confiscatory before opening a proceeding to implement the new regulations;
- Where UNE costs are based on prior ILEC studies, require the ILEC to demonstrate that the existing UNE prices do not already conform with new guidelines before a new proceeding begins;
- In tandem with any move toward the use of more ILEC "actual" data, impose firm requirements that all ILEC inputs must be reasonably audited and made available to all parties in a readily usable format well in advance of any proceeding implementing the new guidelines;
- Require state commissions to ensure that standards for developing ILEC retail price floors are consistent with the new UNE pricing standard so as not to create new price squeezes in implementing the new standards; and
- Require ILECs to make all existing equipment and labor contracts and other relevant input price data (both internal and external, with all terms, including volume discounts and other incentives, identified) in a readily reviewed format available to the state commissions and all parties well in advance of new UNE cost dockets.[38]

126. Each of these measures would help to mitigate the unintended consequences of changes to the TELRIC pricing rules; however, even all of the measures in

[38] The Commission should consider adopting this last recommendation even if it chooses not to modify the current TELRIC pricing rules.

combination would not suffice to eliminate entirely the harms that such rule changes would cause. Therefore, our primary recommendation to the Commission is to stay the course and reevaluate its UNE pricing rules only after substantial experience with the changes in the competitive landscape wrought by the new impairment rules in the *Triennial Review Order*.

127. This concludes our declaration.

I declare under penalty of perjury under the laws of California that the foregoing is true and correct to the best of my knowledge.

Dated this 16th day of December, 2003 at El Cerrito, California.

Terry L. Murray

Terry L. Murray

I declare under penalty of perjury under the laws of California that the foregoing is true and correct to the best of my knowledge.

Dated this 16th day of December, 2003 at Ukiah, California.

D. Scott Cratty

Curriculum Vitae of Terry L. Murray

President, Murray & Cratty, LLC
January 1998 - present
Economic consulting and expert witness testimony specializing in regulatory and antitrust matters.

Principal, Murray and Associates
April 1992 - December 1997
Economic consulting and expert witness testimony, primarily in the fields of telecommunications, energy and insurance regulation and antitrust.

Director, Regulatory Economics, Morse, Richard, Weisenmiller & Associates, Inc.
April 1990 - April 1992
Economic consulting and expert witness testimony, primarily in the fields of telecommunications and energy regulation.

California Public Utilities Commission
June 1984 - March 1990
Director, Division of Ratepayer Advocates (DRA)
March 1989 - March 1990

Headed a staff of over 200 analysts who provided expert witness testimony on behalf of California ratepayers in contested proceedings involving telecommunications, electric, gas, water and transportation utilities.

Program Manager, Energy Rate Design and Economics Branch, DRA
October 1987 - March 1989
Managed a staff of over 30 analysts who testified on electric and gas rate design and costing issues, sales forecasts and productivity analyses. Testified as lead policy witness in electric utility incentive ratemaking and transportation policy proceedings.

Senior Policy Analyst, Policy and Planning Division
March 1987 - October 1987
Organized *en banc* hearing and drafted notice of investigation for major telecommunications incentive regulation proceeding. Headed Commission task force on open network architecture.

Commissioner's Advisor
July 1985 - March 1987
Lead advisor on independent power industry and cost of capital issues. Analyzed proposed decisions on energy, telecommunications, water and transportation issues and made recommendations for Commission action.

Staff Economist, Public Staff Division
June 1984 - July 1985
Testified on cost of capital and telecommunications bypass issues. Served on telecommunications strategy task force charged with developing recommendations for post-divestiture regulatory policies.

Instructor, Golden Gate University
1986 - 1987
Taught courses on telecommunications regulation to students in the Masters in Telecommunications Management program and students in a special program for federal government telecommunications managers.

Acting Assistant Professor of Economics, Wesleyan University
July 1981 - June 1982
Taught undergraduate courses in microeconomics, macroeconomics, econometrics, and economics and policy of regulation.

SELECTED TESTIMONY (SINCE 1/1/97)

Alaska, Regulatory Commission of

- Docket No. U-01-83, In the Matter of the Investigation of the Local Exchange Revenue-Requirement, Depreciation, Cost-of-Service, and Rate Design Studies Filed by ACS of Fairbanks, Inc. d/b/a Alaska Communications Systems, ACS Local Service, and ACS, *et al.*, 11/3/03.
- Docket No. U-96-89, In the Matter of the Petition by GCI Communications Corp. d/b/a General Communication, Inc. and GCI for Arbitration Under Section 252 of the Communications Act of 1996 with the Municipality of Anchorage d/b/a ATU Telecommunications a/k/a ATU Telecommunications for the Purpose of Instituting Local Competition, 8/29/03, 9/29/03, 10/13/03.

California Public Utilities Commission

- R.95-04-043/ I.95-04-044, Orders Instituting Rulemaking/Investigation on the Commission's Own Motion into Competition for Local Exchange Service, 12/12/03.
- Case No. 02-09-045, Mpower Communications Corp. (U-5859-C), Complainant, *v.* Pacific Bell Telephone Company (U-1001-C), Defendant, 5/23/03, 6/4/03.
- R.01-09-001/ I.01-09-002, Orders Instituting Rulemaking/Investigation on the Commission's Own Motion to Assess and Revise the New Regulatory Framework for Pacific Bell and Verizon California Incorporated, 6/21/02, 7/19/02.
- R.93-04-003/I.93-04-002, Rulemaking and Investigation on the Commission's Own Motion to Govern Open Access to Bottleneck Services and Establish and Framework for Network Architecture Development of Dominant Carrier Networks, and R. 95-04-043/I.95-04-044, Rulemaking and Investigation on the Commission's Own Motion into Competition for Local Exchange Service (consolidated for purposes of evaluating Pacific Bell's Section 271 application), 8/23/01.
- A.01-02-024, Joint Application of AT&T Communications of California, Inc. (U 5002 C) and WorldCom, Inc. for the Commission to Reexamine the Recurring Costs and Prices of Unbundled Switching in Its First Annual Review of Unbundled Network Element Costs Pursuant to Ordering Paragraph 11 of D.99-11-050, and A.01-02-035, Application of AT&T Communications of California, Inc. (U 5002 C) and WorldCom, Inc. for the Commission to Reexamine the Recurring Costs and Prices of Unbundled Loops in Its First Annual Review of Unbundled Network Element Costs Pursuant to Ordering Paragraph 11 of D.99 11-050, 2/21/01, 2/28/01, 8/20/01, 10/30/01, 11/9/02, 2/28/02, 10/18/02, 2/7/03, 3/12/03.
- A.01-01-010, Application by Pacific Bell Telephone Company (U 1001 C) for Arbitration of an Interconnection Agreement with MCImetro Access Transmission Services, L.L.C. (U 5253 C) Pursuant to Section 252(b) of the Telecommunications Act of 1996, 2/2/01.

- A.00-01-022, Application of AT&T Communications of California, Inc., *et al.*, for Arbitration of an Interconnection Agreement with Pacific Bell Pursuant to Section 252(b) of the Telecommunications Act of 1996, 1/24/00, 3/5/00.
- A.00-01-012, In the Matter of Covad Communications Company's (U 5752 C) Petition for Arbitration of Interconnection Agreement with Roseville Telephone Company (U 1015 C), 1/7/00.
- A.98-12-005, In the Matter of the Joint Application of GTE Corporation ("GTE") and Bell Atlantic Corporation ("Bell Atlantic") to Transfer Control of GTE's California Utility Subsidiaries to Bell Atlantic Which Will Occur Indirectly as a Result of GTE's Merger with Bell Atlantic, 6/7/99.
- A.99-03-047, In the Matter of the Petition by Pacific Bell (U 1001 C) for Arbitration of an Interconnection Agreement with Metropolitan Fiber Systems/ Worldcom Technologies, Inc. (MFS/Worldcom) Pursuant to Section 252(b) of the Telecommunications Act of 1996, 4/16/99, 5/24/99.
- A.98-05-038, In the Matter of the Application of Pacific Bell for Authority for Pricing Flexibility and to Increase Certain Operator Services, to Reduce the Number of Monthly Directory Assistance Call Allowances, and Adjust Prices for Four Centrex Optional Features, 11/17/98.
- A.98-06-052, In the Matter of the Petition of PDO Communications, Inc. for Arbitration Pursuant to Section 252 of the Federal Telecommunications Act of 1996 to Establish an Interconnection Agreement with Pacific Bell, 8/14/98.
- R.93-04-003/I.93-04-002, Rulemaking and Investigation on the Commission's Own Motion to Govern Open Access to Bottleneck Services and Establish and Framework for Network Architecture Development of Dominant Carrier Networks, 3/18/97, 12/19/97, 2/11/98, 4/8/98, 4/27/98, 5/1/98, 6/5/98, 12/18/98, 1/11/99, 2/8/99, 3/15/00, 3/27/00, 4/5/00, 5/2/00, 6/11/01, 6/25/01, 7/24/01, 7/30/02, 8/20/02, 9/9/02, 11/03/03.

Delaware Public Service Commission

- Docket No. 96-324, Bell Atlantic - Delaware Statement of Terms and Conditions Under Section 252(F) of the Telecommunications Act of 1996, 2/4/97.

District of Columbia Public Service Commission

- Formal Case No. 962, In the Matter of the Implementation of the District of Columbia Telecommunications Act of 1996 and Implementation of the Telecommunications Act of 1996, 3/24/97, 5/2/97, 5/9/97, 1/11/02.

Federal Communications Commission

- WC Docket No. 02-306, In the Matter of Application by SBC Communications Inc., Pacific Bell Telephone Company, and Southwestern Bell Communications Services, Inc. for Provision of In-Region, InterLATA Services in California, 10/9/02.
- CC Docket No. 01-338, In the Matter of Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, 7/17/02.
- File No. EB-02-MD-017, WorldCom, Inc., Complainant, v. Verizon New England Inc., Bell Atlantic Communications, Inc. (d/b/a Verizon Long Distance), NYNEX Long Distance Company (d/b/a Verizon Enterprise Solutions), and Verizon Global Networks, Inc., Defendants, 5/7/02.
- CC Docket Nos. 00-218, 00-249 and 00-251, In the Matter of the Petition of WorldCom, Inc., Pursuant to Section 252(e)(5) of the Communications Act for Expedited Preemption of the Jurisdiction of the Virginia State Corporation Commission Regarding Interconnection Disputes with Verizon Virginia, Inc., and for Expedited Arbitration, *et al.*, 7/31/01, 8/27/01, 9/21/01, 10/28/03.

- File No. E-98-12, MCI Telecommunications Corp. and MCImetro Access Transmission Services, Inc., Complainants, v. Bell Atlantic Corp., Defendant, 12/19/97, 3/25/98.

Florida Public Service Commission

- Docket No. 990649-TP, In re: Investigation into the Pricing of Unbundled Network Elements, 8/11/99, 9/10/99, 10/15/99, 6/8/00, 7/31/00, 8/28/00.

Georgia Public Service Commission

- Docket No. 14361-U, In re: Generic Proceeding to Review Cost Studies, Methodologies, Pricing Policies and Cost Based Rates for Interconnection and Unbundling of BellSouth Telecommunications, Inc.'s Network, 4/5/02.
- Docket No. 11900-U, In re: Investigation of BellSouth Telecommunications, Inc.'s Provision of Unbundled Network Elements for xDSL Service Providers, 11/13/00, 12/20/00.

Hawaii Public Service Commission

- Docket No. 7702, In the Matter of Public Utilities Commission Instituting a Proceeding on Communications, Including an Investigation of the Communications Infrastructure of the State of Hawaii, 7/3/97, 8/29/97, 6/2/00.

Illinois Commerce Commission

- Docket No. 02-0864, Illinois Bell Telephone Company Filing to Increase Unbundled Loop And Nonrecurring Rates (Tariffs filed December 24, 2002), 5/6/03.
- Docket No. 00-0393, Illinois Bell Telephone Company Proposed Implementation of High Frequency Portion of Loop (HFPL) / Line Sharing Service, 9/1/00, 9/20/00, 10/4/00.
- Docket Nos. 00-0312 and 00-0313, Petitions of Covad Communications Company and Rhythms Links Inc. for Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish an Amendment for Line Sharing to the Interconnection Agreement with Illinois Bell Telephone Company d/b/a Ameritech Illinois, and for an Expedited Arbitration Award on Certain Core Issues, 5/15/00, 6/22/00, 11/21/00, 12/12/00, 12/21/00, 7/13/00.
- Docket No. 98-0396, Investigation into the Compliance of Illinois Bell Telephone Company with the Order in Docket 96-0486/0569 Consolidated Regarding the Filing of Tariffs and the Accompanying Cost Studies for Interconnection, Unbundled Network Elements and Local Transport and Termination and Regarding End to End Bundling Issues, 3/29/00, 5/5/00, 7/12/00.
- Docket No. 99-0593, Investigation of Construction Charges, 2/17/00, 3/8/00, 3/22/00.

Indiana Utility Regulatory Commission

- Cause No. 42393, In the Matter of the Commission Investigation and Generic Proceeding of Rates and Unbundled Network Elements and Collocation for Indiana Bell Telephone Company, Incorporated, D/B/A SNV Indiana Pursuant to the Telecommunications Act of 1996 and Related Indiana Statutes, 8/15/03.

Kansas Corporation Commission

- Docket No. 00-DCIT-997-ARB, In the Matter of the Petition of Covad Communications Company for Arbitration of Interconnection Rates, Terms, Conditions and Related Arrangements for Line Sharing with Southwestern Bell Telephone Company, 6/12/00.
- Docket No. 00-DCIT-389-ARB, In the Matter of the Petition of DIECA Communications, Inc. d/b/a Covad Communications Company for Arbitration of

Interconnection Rates, Terms, Conditions and Related Arrangements with Southwestern Bell Telephone Company, 1/7/00, 1/25/00, 2/21/00.

Maryland Public Service Commission

- Case No. 8918, In the Matter of the Review of Verizon Maryland Inc.'s Price Cap Regulatory Plan, 9/13/02.
- Case No. 8921, In the Matter of the Review by the Commission into Verizon Maryland Inc.'s Compliance with the Conditions of 47 U.S.C. § 271(c), 7/15/02.
- Case No. 8879, In the Matter of the Investigation into Rates for Unbundled Network Elements Pursuant to the Telecommunications Act of 1996, 5/25/01, 9/5/01, 10/15/01.
- Case No. 8745, In the Matter of the Provision of Universal Service to Telecommunications Consumers, 5/21/01, 6/11/01.
- Case No. 8842, In the Matter of Rhythms Links Inc. and Covad Communications Company vs. Bell Atlantic-Maryland, Inc., pursuant to Section 252(B) of the Telecommunications Act of 1996, 5/5/00, 7/14/00, 10/27/00.
- Case No. 8820, In the Matter of the Investigation into Affiliated Activities, Promotional Practices and Codes of Conduct of Regulated Gas and Electric Companies, 10/1/99, 10/26/99, 12/10/99.
- Docket No. 8797, In the Matter of The Potomac Edison Company's Proposed: (a) Stranded Cost Quantification Mechanism; (b) Price Protection Mechanism; (c) and Unbundled Rates, 1/26/99.
- Docket No. 8795, In the Matter of Delmarva Power and Light Company's Proposed Stranded Cost Quantification Mechanism, Price Protection Mechanism, and Unbundled Rates, 12/28/98.
- Docket No. 8794, In the Matter of Baltimore Gas and Electric (BGE)'s Proposed Stranded Cost Quantification Mechanism, Price Protection Mechanism, and Unbundled Rates, 12/22/98, 7/23/99, 8/3/99.
- Docket No. 8786, In the Matter of the Investigation of Non-Recurring Charges for Telecommunications Interconnection Service, 5/27/98, 11/16/98, 12/18/98.
- Docket No. 8731, Phase II, In the Matter of the Petitions for Approval of Agreements and Arbitration of Unresolved Issues Arising Under §252 of the Telecommunications Act of 1996, 3/7/97.

Massachusetts Department of Telecommunications and Energy

- Docket No. DTE 98-57, Investigation by the Department on its own motion as to the propriety of the rates and charges set forth in the following tariffs: M.D.T.E. Nos. 14 and 17, filed with the Department on April 2, 1999, to become effective May 2, 1999, by New England Telephone and Telegraph Company d/b/a Bell Atlantic – Massachusetts, 7/26/99, 11/9/99.

Michigan Public Service Commission

- Case No. U-12540, In the Matter of the Application of Ameritech Michigan for Approval of Cost Studies and Resolution of Disputed Issues Related to Certain New UNE Offerings, 9/15/00, 10/13/00.

Minnesota Public Utilities Commission

- PUC Docket No. P-421/CI-01-1371, In the Matter of a Commission Investigation into Qwest's Compliance with Section 272(c)(2)(B) of the Telecommunications Act of 1996; Checklist Items 1.2, 4, 5, 6, 11, 13, and 14, 6/10/02, 8/2/02, 8/29/02, 9/10/02.

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Missouri Public Service Commission

- Case No. TO-2001-439, In the Matter of the Determination of Prices, Terms, and Conditions of Conditioning for xDSL-Capable Loops, 6/22/01, 7/13/01.
- Case No. TO-2000-322, In the Matter of the Petition of DIECA Communications, Inc. d/b/a Covad Communications Company for Arbitration of Interconnection Rates, Terms, Conditions and Related Arrangements with Southwestern Bell Telephone Company, 1/7/00, 1/27/00, 2/10/00.

Nevada Public Service Commission

- In re a Petition of the Staff of the Public Utilities Commission to Open a Docket to Investigate Costing and Pricing Issues Related to Industry-Wide Collocation Costs Pursuant to the Telecommunications Act of 1996 and the Commission's Regulations, 11/3/00.
- Docket No. 96-9035, In re a Petition by the Regulatory Operations Staff to Open an Investigation into the Procedures and Methodologies that Should Be Used to Develop Costs for Bundled or Unbundled Telephone Services or Service Elements in the State of Nevada, 5/8/97, 5/23/97.

New Jersey Board of Public Utilities

- Docket No. TO00060356, In the Matter of the Board's Review of Unbundled Network Elements Rates, Terms and Conditions of Bell Atlantic – New Jersey, 10/12/00.

New York Public Service Commission

- Case No. 98-C-1357, Proceeding on Motion of the Commission to Examine New York Telephone Company's Rates for Unbundled Network Elements, 9/23/99, 10/18/99, 10/22/99, 2/7/00, 2/22/00, 3/31/00, 4/17/00, 6/26/00, 10/19/00, 11/13/00.

Ohio Public Utilities Commission

- Case No. 03-2040-TP-COI, In the Matter of the Implementation of the Federal Communications Commission's Triennial Review Regarding Local Circuit Switching in the Mass Market, 12/1/03.
- Case No. 96-922-TP-UNC, In the Matter of the Review of Ameritech Ohio's Economic Costs for Interconnection, Unbundled Network Elements, and Reciprocal Compensation for Transport and Termination of Local Telecommunications Traffic, 10/6/00.

Oklahoma Corporation Commission

- Cause No. PUD 200000192, Applicant: Southwestern Bell Telephone Company; Relief Sought: Approval of Nonrecurring Rates for Conditioning Unbundled Digital Subscriber Line ("DSL") Capable Loops, 7/12/00, 8/1/00.

Oregon Public Utility Commission

- Case No. UM-731, Phase IV, In the Matter of the Investigation of Universal Service in the State of Oregon, 1/17/00.

Pennsylvania Public Utility Commission

- Docket No. R-00016683, Generic Investigation of Verizon Pennsylvania, Inc.'s Unbundled Network Element Rates, 12/7/01, 1/11/02, 2/8/02.

- Docket No. M-00001353, Re Structural Separation of Verizon-Pennsylvania Inc. Wholesale and Retail Operations, 10/10/00.
- Docket No. R-00005261, In re: Further Pricing of Bell Atlantic Pennsylvania, Inc.'s Unbundled Network Elements, 10/4/00.
- Docket Nos. R-00994697 and R-994697C0001, Pennsylvania Public Utility Commission v. Bell Atlantic – Pennsylvania, Inc./ Rhythms Links Inc., Complainant v. Bell Atlantic – Pennsylvania, Inc., Respondent, 12/21/99, 1/14/00.
- Docket Nos. P-00991648, Joint Application of NEXTLINK Pennsylvania, Inc., *et al.* and P-00991649, Joint Application of Bell Atlantic – Pennsylvania, Inc., *et al.*, 4/22/99, 6/11/99.
- Docket Nos. A-310200F0002 *et al.*, In re the Joint Application of Bell Atlantic Corporation and GTE Corporation for Approval of Agreement and Plan of Merger, 3/23/99, 5/19/99.
- Docket No. I-00960066, Generic Investigation of Intrastate Access Charge Reform, 6/30/97, 7/29/97, 8/27/97.
- Docket No. A-310203F002, Application of MFS Intelenet of Pennsylvania, Inc., for Approval to Operate as a Local Exchange Telecommunications Company, 1/13/97, 2/97.

Tennessee Regulatory Authority

- Docket No. 97-00309, In Re: BellSouth Telecommunications, Inc.'s Entry into Long Distance (interLATA) Service in Tennessee Pursuant to Section 271 of the Telecommunications Act of 1996, 7/11/02.

Texas Public Utility Commission

- Docket No. 25834, Proceeding on Cost Issues Severed from P.U.C. Docket No. 24542, 11/4/02, 2/14/03.
- Docket Nos. 22168, Petition of IP Communications Corporation to Establish Public Utility Commission of Texas Oversight Concerning Line Sharing Issues and 22469, Complaint of Covad Communications Company and Rhythms Links, Inc. against Southwestern Bell Telephone Company and GTE Southwest Inc. for Post-Interconnection and Arbitration under the Telecommunications Act of 1996 Regarding Rates, Terms, Conditions and Related Arrangements for Line-Sharing, 5/17/00, 9/5/00 (rev. 10/6/00), 10/20/00.
- Docket Nos. 20226, Petition of Accelerated Connections, Inc. d/b/a ACI Corp. for Arbitration to Establish an Interconnection Agreement with Southwestern Bell Telephone Company, and 20272, Petition of DIECA Communications, Inc., d/b/a Covad Communications Company for Arbitration of Interconnection Rates, Terms and Conditions and Related Arrangements with Southwestern Bell Telephone Company, 2/19/99, 4/8/99.

Washington Utilities and Transportation Commission

- Docket No. UT-960639 *et al.*, Phase II, In the Matter of the Pricing Proceeding for Interconnection, Unbundled Elements, Transport and Termination, and Resale, 8/20/98, 9/11/98.

EDUCATION

A.B., Oberlin College, Oberlin, Ohio. Major: Economics. National Merit Scholar, recipient of Hanson Prize in Economics, elected to Phi Beta Kappa.

M.A., M.Phil., Yale University, New Haven, Connecticut. Economics. Admitted to Ph.D. candidacy and completed all Ph.D. requirements except dissertation. Fields of specialization included industrial organization and energy and environmental economics. Honorable mention, National Science Foundation Fellowship; recipient of University Fellowship and Sloan Foundation dissertation research fellowship.

Exhibit TLM/DSC-2

Scott Cratty

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Mr. Cratty's experience includes over 20 years within the telecommunications industry covering a wide range of assignments (including technical, marketing and regulatory assignments) combined with more than 8 years of consulting experience focusing on telecommunications regulation. Mr. Cratty has participated in regulatory proceedings in more than 20 states covering a wide range of issues.

Vice President, Murray & Cratty, LLC (formerly Murray and Associates)
January 1996 - present

Provides case management, expert analysis and testimony in matters concerning costs, prices and regulatory policy, principally in telecommunications sector, to consumer advocacy organizations such as The Utility Reform Network, the Utility Consumers' Action Network and the Minnesota Department of Commerce, to competitive local exchange providers such as AT&T Communications, MCI, Covad Communications Company and more a dozen other companies, and to trade groups.

AT&T Communications
June 1984 - January 1996

Manager, State Government Affairs. Managed various California regulatory dockets including AT&T's request for intraLATA presubscription, Local Exchange Company rate cases, LEC price cap regulation and regulatory framework, LEC network unbundling costs and miscellaneous LEC applications, such as product line expansions. Provided subject matter expert support in all regulatory proceedings specific to issues of LEC cost analysis, imputation, competitive safeguards, pricing regulation and rates for resale and unbundled services.

Supervisor, State Government Affairs. Prepared AT&T's analysis of and response to all proposed LEC tariff changes, including detailed analysis of LEC cost and price floor calculations. Provided regulatory case support and Public Utility Commission contact for numerous proceedings including the "Implementation Rate Design," which opened California's intraLATA toll markets to competition.

Selected Prior Assignments. Supervisor, Product Implementation. Responsible for intrastate private line tariff filings and tariff interpretation for California and Nevada. ***Supervisor, Access Financial Assurance.*** Managed AT&T's relationship with

independent access providers (ICOs) and coordinated AT&T's 5 regional ICO financial assurance groups. Negotiated the implementation of industry standard access billing with the big five ICOs and represented AT&T at the National Exchange Carrier Association. **Others.** Other assignments include Telecommunications Technician and Residential Services Marketing.

Education

B.A., Golden Gate University. Major: Human Relations.